



Tree and Shrub Establishment

Natural Regeneration Job Sheet

JS-MO612nr

Missouri - Natural Resources Conservation Service

May 2005

Landowner:		Farm #:
Field(s):	Acres:	Acres:
Soil Map Unit(s):		County:
Designed By:		Approved By:
		Signature:
Date:		Date:

DEFINITION

Establishing woody plants with natural regeneration from nearby seed sources on non-forested sites.

PURPOSES (check all that apply)

- ☐ Establish woody plants for forest products
- ☐ Establish wood plants for wildlife habitat
- ☐ Long-term erosion control
- ☐ Improvement of water quality
- ☐ Treat waste
- ☐ Reduction of air pollution
- ☐ Sequestration of carbon
- ☐ Energy conservation
- ☐ Enhance aesthetics

CONDITION WHERE PRACTICE APPLIES

The use of a natural seed source for replanting may be used under the following conditions:

- Areas that experience frequent flooding.
- Depression areas too wet to machine or hand plant.
- Sites likely to be invaded by soft-mast or light seed species.
- Sites that are within 300 feet of existing mature woodlands and adjacent to desirable seed sources.



Natural regeneration on a former cropland bottomland field

SPECIFICATIONS

Site Preparation

Any vegetation that would hinder planting or provide excessive competition to the reseeding should be removed with appropriate treatment. Base site preparation activities on the anticipated seed source. For spring seeding species, begin site preparation in the fall with a spring follow up. For fall seeding species, begin site preparation in mid-summer with an additional early fall follow up. Prior to reseeding, adequate protection from fire and livestock should be established.

Site preparation is planned as follows (check all that apply):

- ☐ Mechanical means such as plowing, disking or roto-tilling
- ☐ Chemical control of vegetation
- ☐ Prescribed burning based on a current approved prescribed burn plan
- ☐ Other:

Site Preparation - Continued:

If a *cover crop* is needed, use the following species at the indicated rates:

Field	Temporary/Permanent	Species	Rate – PLS/ac

If *chemical weed control* is needed, use the following products at label rates:

Field	Herbicide	Treatment: field/strip/spot

Existing brush or trees may be maintained if the site is to be inter-planted and the retained trees/shrubs will provide functions consistent with the planned use. For wildlife purposes, consider retaining some trees that will provide den sites or mast production while the new planting is becoming established. Undesirable trees that will hamper planting or provide excessive shade should be removed or killed.

The following trees and shrubs will be maintained for inter-seeded areas:

Field	Species	Species

RESEEDING TIMING

Not all natural regeneration programs are immediately successful. Nearby seed trees are the usual source of the seed needed for reestablishment. The correct environmental conditions for the development of adequate seed, germination and the eventual survival of species of trees may occur only once every 2 to 4 years. Careful observation of when seeds fall and the amount of seed visible on the trees before seed fall will help in deciding when to prepare the site. Use the following table to help manage reseeding timing.

	Green Ash	Silver Maple	Cottonwood	Sycamore	Pin Oak
Pollination	March - May	March - April	March - April	March - April	February - May
Seed Maturity	September - October	April - June	May - August	November	October - November
Seed Dispersal	Immediately after ripening. Gravity and water dissemination.	Immediately after ripening. Wind, gravity and water dissemination.	Immediately after ripening. Wind (several hundred feet) and water dissemination.	Late winter, early spring. Wind, gravity and water dissemination.	Fall and early winter. Gravity, animal, and water dissemination.
Good Seed Years	Every 1 -2 years	Every 1 -2 years	Every 1 -2 years	Every 1 -2 years	Every 2-4 years
Germination	Spring following fall seed dispersal. Bare soil not required.	Immediately following seed dispersal. Bare soil important.	Immediately following seed dispersal. Bare soil important.	Spring and early summer. Bare soil important.	Spring following fall seed dispersal. Bare soil not required.

OPERATION AND MAINTENANCE: Care after natural seeding

☐ **Weed Control:** Elimination of competing vegetation is normally carried out for one to five years after planting. Weed control is an important factor in tree and shrub seedling survival, especially for hardwood species. Weed control will be accomplished through ☐ **cultivation** and/or ☐ **herbicide** use.

Mechanical or hand cultivation should be kept at least 6 inches from the seedling and no deeper than 3 inches to avoid damage to the seedling. Additional methods may be needed to control weeds closer to the seedling. The use of herbicides usually provides good weed control. Mowing generally does not provide adequate control since the weeds are still competing for nutrients and water; also potential damage to tree seedlings from mowing is high.

☐ **Pest Management:** Plant injury or death should be controlled through preventative measures. Domestic animals that might graze on seedlings should be excluded. Control of weeds (which may hide rodents or rabbits), repellants or poisons, hunting and the use of tree shelters should be considered to reduce damage from wild animals. New seedlings should be monitored for potential insect and disease problems and appropriate control measures taken if significant problems are found.

☐ **Replanting:** Some sites may not revegetate satisfactorily or plants may die over time to a variety of causes. The decision to re-plant for some or all of the losses or failures will be based on whether or not the remaining plants will likely meet the desired purpose(s) and any program requirements. After two growing seasons, a final status check of the plantings or regeneration should be conducted. For this planting, an acceptable level of plant recruitment is _____ woody plants per acre.

Operation and Maintenance - Summary

1. Competing vegetation should be controlled until the woody plants are established.
2. State noxious weeds will be controlled.
3. Replanting will be required when survival is inadequate.
4. Plantings should be inspected periodically and protected from adverse impacts including insects, diseases, competing vegetation, wildfire and damage from livestock or wildlife.

Ordering Trees/Shrubs: Woody plants may be ordered from the MDC George O. White State Forest Nursery (1-877-521-8632) or from commercial nurseries. They should be ordered early to ensure desired availability.

ADDITIONAL COMMENTS:

Planning Map of Regeneration Area (indicate North on map)

Scale 1"= _____ ft. (NA indicates sketch not to scale. Grid size = 1/2" by 1/2")
